In the Claims:

Please cancel claims 1-15 without prejudice. Claims 16-31 stand allowed. There are no claim amendments enclosed.

1-15.(canceled)

16.(original) A method of seeding and culturing cells, the method comprising:

seeding the cells by generating a flow of medium carrying an inoculum containing cells through a three-dimensional nonwoven fibrous matrix of polyethylene terephthalate so as to filter the medium therethrough at a flow rate effective for permitting adherence of predetermined cells to the matrix;

diverting the flow of medium after filtering so that the diverted medium flows primarily along outer peripheries of the matrix; and

culturing the adherent cells by perfusing the diverted flow of medium to contact the outer peripheries of the matrix at a flow rate effective for allowing diffusion of cell nutrients and cell waste products through the matrix.

17.(original) The method of claim 16, further comprising removing non-adherent cells from the medium after seeding.

18.(original) The method of claim 16, wherein the inoculum consists of a sample of human bone marrow.

19.(original) The method of claim 16, wherein the inoculum contains human mesenchymal stromal cells.

20.(original) The method of claim 16, wherein the inoculum contains human hematopoietic stem cells.

21.(original) The method of claim 16, wherein filtering and diverting are carried out within a single cell culture chamber.

22.(original) The method of claim 16, wherein filtering and diverting are carried out substantially simultaneously in a plurality of cell culture chambers.

23.(original) The method of claim 16, wherein filtering and diverting are carried out without handling the matrix.

24.(original) A method of seeding and culturing cells, the method comprising:

seeding the cells by generating a flow of medium carrying an inoculum containing cells through a three-dimensional nonwoven fibrous matrix of polyethylene terephthalate so as to filter the medium therethrough at a flow rate effective for permitting adherence of predetermined cells to the matrix;

monitoring cell count in the filtered medium as an indicator of cell adherence to the matrix and continuing filtration until a predetermined proportion of cells has adhered;

diverting the flow of medium after filtering so that the diverted medium flows primarily along outer peripheries of the matrix; and

culturing the adherent cells by perfusing the diverted flow of medium to contact the outer peripheries of the matrix at a flow rate effective for allowing diffusion of cell nutrients and cell waste products through the matrix.

25.(original) The method of claim 24, further comprising removing non-adherent cells from the medium after seeding.

26.(original) The method of claim 24, wherein the inoculum consists of a sample of human bone marrow.

27.(original) The method of claim 24, wherein the inoculum contains human mesenchymal stromal cells.

28.(original) The method of claim 24, wherein the inoculum contains human hematopoietic stem cells.

29.(original) The method of claim 24, wherein filtering and diverting are carried out within a single cell culture chamber.

30.(original) The method of claim 24, wherein filtering and diverting are carried out substantially simultaneously in a plurality of cell culture chambers.

31.(original) The method of claim 24, wherein filtering and diverting are carried out without handling the matrix.